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DEVOTED TO MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

EDITED BY J. B. BIDDLE, M. D. AND M. CLYMER, M. D.

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[Vol. I.]

VARIOLA VACCINÆ OR VACCINIA, OR COW-POCK.

By N. CHAPMAN, M. D., *Professor of the Theory and Practice of Physic, in the University of Pennsylvania.*

(Continued from page 268.)

CUTANEOUS affections of any kind, existing to some extent, the operation is inadmissible. It is not easy in this state of the skin to get the virus to act, and when it does, it is apt (as I shall presently show) to generate a mixed disease devoid of the protective power. Even the sulphurous impregnation of the skin, which takes place in the cure of itch, we are told by Jenner, prevents the vaccine infection. To this purport, he relates the fact of his inability to communicate the disease to a body of soldiers in this condition, whose surface being cleansed by the warm bath, they very readily received it.

Much has been said concerning the selection of the virus. The foreign writers, including Jenner, seem generally to prefer the pellucid fluid directly from the vesicle, and urge the taking of it on or before the ninth day, or previously to its becoming opaque and purulent, or the areola being formed. That it is less active after this time, is well established. The use, however, of the fluid, has been, for many years, altogether abandoned in this city, and the scab substituted, to which we were led by the following motives:

1st. It allows the disease to run its course, free from the danger of changing its specific character by any artificial interference, or molestation.

2d. The virus embodied in the scab, by proper precautions, may be much longer preserved, even for a year or more, without vitiation or diminution of power.

3d. It supplies a larger amount of matter for an extensive propagation of the disease, and the difficulty of infection is lessened for the same reason.

Notwithstanding these recommendatory considerations, I am not satisfied that we have done right in adopting the scab. European practitioners of the most enlarged experience, have entered their protest against it. By all, it is admitted, that the opaque or purulent fluid is far less to be depended upon, than the pellucid lymph—and it is not to be conceived that the former, when dried into a scab, should acquire any new, or regain additional efficacy. It will, too, be hereafter seen, that on the prevalence of epidemic small-pox among us, the failures of vaccination, were infinitely more numerous than elsewhere—which may, with probability, be referred to this cause.

Be this as it may, no one doubts that there is a choice in the scabs—certain ones, only, being entitled to confidence. Those which are hard and compact, of a dark mahogany colour, and with a regular, well defined margin, should be selected. The pale grayish scab, scaly or lamellated in its

structure, with ragged edges, is always suspicious, very liable to fail, or if it infects, produces an illegitimate disease, impotent to any security against small-pox.

Employing the scab, the loose, fuzzy parts which lie on the inner surface, and attach to the circumference, are to be scraped off, and a small portion of the real solid scab is to be powdered, and moistened, to the state of a thick or ropy fluid. As in the case of the pellucid lymph, this may be inserted into a small puncture or scratch, or what succeeds better, to lay it on the skin, and work it in with the point of a lancet, taking care not to penetrate so deep as to occasion bleeding, which is apt to defeat the operation, by diluting the virus to inertness, or more likely by washing it away.

The history of the progress of the disease, may be very succinctly told. It almost invariably happens, that the incision heals, so as scarcely to leave a vestige—any appearance to the contrary, denoting common inflammation, instead of the specific action of the virus. The infection succeeding, there may be usually seen on the close of the third, or the beginning of the fourth day, a small red speck, somewhat elevated, which on pressure imparts to the finger the sensation of its enclosing a grain of some hard substance. This minute pimple gradually enlarges—and about the sixth day, a small vesicle is formed out of it, having a round margin, flat surface, with a slight indentation in the centre—is of a pink colour, which changes to a deeper red, with a mixture of blue, and is darkest in the middle. There is, at the same time, thrown close around its base, a narrow efflorescence like a ring. On the eighth, ninth, or tenth day, for the period is not very precise, the vesicle is changed into a pustule, and the areola becomes more florid, and of half an inch, more or less, in diameter. The pustule soon after attains its height, and the efflorescence throughout its whole extent is tumefied, in which state it continues for several days, then subsides and fades away. In the declination of the pustule, the centre darkens first, and the whole by degrees is converted into a hard smooth crust, of a mahogany complexion. The crust drops off spontaneously in the course of the third week, leaving a small superficial cellulated definite cicatrix.

This is the developement of the local affection. On the expiration of the seventh day, in children somewhat advanced, or adults, or those still older, in whom there is usually most disease, the ordinary symptoms of fever are manifested, and sometimes even to a considerable height.

Yet these are generally slight and evanescent in infancy, the only serious complaint being soreness and tumefaction under the axilla, which even in infants exist, and hence care should be taken that they be not raised up by the arms.

Connected with the history of vaccination, there are one or two other circumstances deserving of no-

tion. The local affection is sometimes very early in its development and rapid in its career, appearing on the second day, and reaching maturity in four or five days, though oftener the reverse, and especially as regards the slowness of its disclosure. I have known it to be postponed in one instance, to the fourteenth, in another to the twenty-first day—and there is a case recorded in which the period was extended to six weeks. But what is more extraordinary in this last case, a second vaccination took effect, and subsequently the first one became completely evolved. An instance, too, is mentioned where the operation failing in a child, it was repeated in ten days successfully, the disease going regularly through its several stages—and six months afterwards, the former one began to inflame, and finally presented a genuine pustule, leaving behind it a regular cicatrix.*

Nearly always, there is a solitary pustule produced by the act of vaccination, and that at the point of the insertion of the matter. But occasionally we meet with a few vesicles of an imperfect character around the areola of the original or parent pustule. Cases, also, though very rarely, have been noticed, of a sparse and scattered eruption on the body. Thus we learn from the report of the Central Vaccine Committee of France, that in 1818-19, there was a considerable number of instances, in which many pustules occurred, so completely formed that matter taken from them, produced the genuine disease.

This, then, is a brief account of the legitimate form of the vaccine affection, with its occasional anomalies.

More, perhaps, than any other point, is it important to understand the diagnosis between the genuine and the spurious disease, and no great attention is usually required to decide it with proper discrimination. It may, however, facilitate the comprehension of the distinctions between them, to bring the two affections into immediate contrast.

1st. There is, in the legitimate disease, no evidence, ordinarily, of successful infection till the third day—and then we are presented with a minute and elevated pimple, having a definite margin, and flattened surface. The spurious, on the contrary, shows itself very soon in the form of a phlegmon, with considerable inflammation.

2d. The pimple in the genuine disease, gradually increases till about the sixth day, when it is converted into a vesicle containing pellucid lymph, retaining the same figure and construction: whereas, in the spurious, with its original phlegmonous character, it reaches maturity before this period, and becomes an abscess filled with pus.

3d. In the genuine disease, the vesicle changes to a pustule from the ninth to the tenth day, at which time it is surrounded by a very regular areola. But long before this period, the abscess in the spurious has ruptured and scabbed, or degenerated into a ragged sore, and in place of a defined areola, has about it a diffusive erysipelatus blush.

4th. The pustule of the genuine disease, when at its height, is round, or oval, and elevated, with a perfectly definite margin, flattened surface, and a central depression, resembling a button mould bound tightly by the skin, to which it has indeed

been compared. Directly the reverse are the figure and condition of the local affection in the spurious, which now, and from the beginning, looks like a common fester, or boil, being conical, or pointed.

5th. There is an equal difference in the cicatrix or scar, left behind. In the genuine it is small, striated, and cellulated. That of the spurious, on the contrary, being scarcely perceptible, or very large, smooth, and polished.

No difficulty of discrimination could well be experienced, were the two states of the disease always thus orderly in their course, and strongly characterized. But it occasionally happens, from a feebler development, or some injury done to the vesicle or pustule, or by some other cause, its aspect and condition are so changed, as to embarrass exceedingly a decision regarding its nature and protective efficacy. Examples to this purport, are found especially in vesicles, or pustules of much smaller than the usual dimensions, of a paler or more pearly colour, or the want of an areola, or with a very slight one, or, on the contrary, exceedingly extensive and undefined, like an erysipelatus blush, or so rubbed or torn, as to be deprived of their distinctive signs. Cases of such ambiguity occurring, or, in short, where, for any reason, there is the slightest doubt of the success of the operation, it becomes our duty to repeat it without delay.

Not a word need be said of the prognosis. This is always favourable—no instance of death, so far as I know, having happened from the disease, or, indeed, of any danger attending it. The anatomical characters are hence confined to the pustule itself, and here I may refer to what was said in regard to that of small-pox, they being essentially the same in the two affections; so far, at least, that in each there is the peculiar cellulated structure, formerly described. I leave its pathology to be deduced from the facts which have been stated, and general analogy.

Of the treatment of the disease it may be observed, that children are seldom so sick as to demand medicine, or even any material change of diet. Evacuations of the bowels, by the mildest laxatives, and occasionally small doses of the dulcified spirit of nitre, or antimonial wine, I have found sufficient in the worst of their cases. But, should an attack assume a more violent shape, which now and then occurs in grown people, the management is to be conducted on ordinary principles, and by the customary means, suited to the particular indications.

The local affections, however, more frequently call for attention. To allay excess of inflammation, cold water, or water and vinegar, or the diluted acetate of ammonia, or a weak solution of acetate of lead, or a saturnine poultice, may be applied; and to arrest or heal the ulcer, the common dressings are to be used. In some of these latter instances, however, I have found the blue mercurial ointment, or the citron ointment, or simple cerate with calomel, singularly serviceable.

Nothing is required to prepare the system for the reception of the disease, or its subsequent purification, as is vulgarly believed, from the taint which it imbibes. This part of the subject, I shall conclude with advising that, after using all the precautions already directed, the patient is to be visited

* Journal of Foreign Medicine, vol. iii. p. 719.

on the appearance of the vesicle, at its maturity, in the pustular state,—and on its declination,—watching, to determine whether it goes through these several stages with regularity, and, finally, to examine the cicatrix.

The question may here be very properly asked, in consequence of recent and multiplied reports to the prejudice of vaccination, whether, on the whole, it is still entitled to confidence? There was no time, even in the season of its greatest triumph, that allegations were not made, of the occasional failure of the process. But, perhaps, in a fair estimate, such instances amount to little, and may be so explained, as not materially to affect the value of the practice.

The sources of miscarriage I shall endeavour to indicate, and which are thought mainly, though not altogether, to proceed from the use of impure matter.

1st. The udder of the cow is liable to two species of pustules bearing an analogy to each other—the one secreting genuine, and the other a spurious virus, having no preventive efficacy against small-pox. An ignorance of this fact, led to some failures in the early period of vaccination. The illegitimate disease in the cow, is characterized by nearly the same circumstances as in the human subject, both as to the local and constitutional affections.*

2d. As regards our own species, the vesicle may be originally spurious from several causes, among which the practice of deriving virus from an individual who had previously undergone the variolous or vaccine disease. It was a common opinion at an early period of vaccination, that the genuine vaccine pustule might be induced in a system thus circumstanced. The repetition of the process of vaccination, was indeed, as well as I recollect, recommended by Jenner himself, as the best means of transmitting the virus to distant countries. —But the fallacy of the opinion has long since been exposed. As demonstrated by an infinity of trials, the vaccine and variolous matter has on such a system only the power of creating local inflammation, or, at most, a phlegmon, like that excited by other irritants or poisons. Once exposed to their specific operation, it loses, for a time at least, its susceptibility to their influence—or if instances to the contrary occur, they are to be deemed as mere exceptions, not affecting the general principle. Labouring under the error to which I have alluded, practitioners did much to spread an illegitimate disease.

3d. The vesicle may be spurious from its existing in a distempered subject. By Jenner, the power of certain cutaneous disorders over vaccination, was early detected, and has since been more particularly pointed out by some other writers. Bateman says, “the most frequent cause of the deterioration of the lymph, seems to be the presence of chronic cutaneous eruptions, or the concurrence of eruptive fevers, or even of other febrile diseases. The chronic cutaneous affections, which sometimes impede the formation of the genuine vaccine vesicle, have been described by Jenner, under the ordinary indefinite term, Herpes, and Tinea Capitis. But in the more accurate phraseology of Dr. Willan,

they are herpes, (including the *shingles* and vesicular ringworm,) psoriasis, and impetigo, (the dry and humid tetter,) the lichen, and most frequently the several varieties of porrigo, comprising the contagious eruptions,” as the itch especially. We are further told by Tierny, that ulcers, as well as recent wounds, are also mischievous in their tendencies.

Even slighter occurrences, in the opinion of Jenner, have an effect. Not long before his death,* in a circular letter addressed to the profession, he declares that “mere abrasions of the cuticle, such, for example, as are found in the nurseries of the opulent, as well as in the cottages of the poor, behind the ears, and on many other parts, where the cuticle is tender,” are pernicious in this way. “We find,” continues he, “irregularity in the vaccine vesicle, if the skin is beset with herpetic blotches, or even simple serous oozings from an abraded cuticle; a speck behind the ear, which might be covered with a split pea, is capable of disordering the vaccine vesicle.”

This is really ultraism. Could it be established, that vaccination is controlled by such trivial occurrences, it would constitute a more serious objection to it than any which have been alleged by its most inveterate foes. The fact is, that Jenner latterly, pressed on all sides by the augmented and cumulative proofs of the fallibility of vaccination, lost his candour, and from a sort of parental partiality for his discovery, sought to vindicate it, or explain away its imperfections, in a manner unworthy of his former reputation for philosophical truth.

He, however, rendered it probable, by a series of observations, that the vaccine action will enter into combination with certain species of herpes, producing a third disease of a hybridous nature, which may be indefinitely propagated by inoculation, without change of character, though ineffectual to all the purposes of preservation against variola.

It was early observed, and which lends confirmation to this statement, that vaccination practised in situations simultaneously exposed to the variolous infection, the case received a very material modification. Thus, at the first introduction of vaccination, Woodville, who had charge of the large small-pox hospital in London, instituted some experiments in that establishment, with a view of testing the validity of Jenner's reports, and found, that in about three-fifths of the cases, a disease was produced, more or less of an eruptive nature, very different from the pure vaccine, and approaching more to variola. This led to a controversy between him and Jenner, which was soon settled by the discovery, that the anomaly could be directly traced to the operation of the variolous effluvia with which the atmosphere of the wards of the hospital was impregnated, where the patients were placed, though not till great mischief had been done by the dissemination of lymph derived from this polluted source.†

Of the influence of the other eruptive fevers, we are not so accurately informed. It seems, however, that when measles, or scarlatina, breaks out, the vaccine vesicle is arrested, till these fevers abate, when it again resumes, and finishes its

* Good, 395, vol. ii.

• 1821.

† Marshall on Vaccination.

progress, with a retention of all its peculiar properties.*

3d. Matter originally pure, may, by keeping, undergo some change, weakening or destroying its qualities. Time, which alone will cause such effects, is much aided by a high degree of temperature. During winter, the pellucid virus, which is more perishable than the scab, may be preserved for many months: whereas, in summer, it loses its strength in a few days, and in some instances, even in a few hours. Being only impaired, it causes a pustule so imitative of the genuine one, as hardly to be discriminated. The particular, indeed, in which they chiefly differ, is, that in the former, the scab is said prematurely to fall off, leaving the constitution so slightly affected, that no protection is afforded.

An account is given by Baron Humboldt, of a surgeon of Lima, having vaccinated a number of persons with superannuated matter, brought to that city, all of whom apparently did well, though the whole subsequently received variola by inoculation, in a very mild shape. To the same point, cases might be cited, from various records, showing that virus enfeebled by age or otherwise, will excite a simulated affection, which, while it is incapable of an entire resistance, tempers the violence of small-pox.

4th. An effect, not altogether dissimilar, is said to follow the use of virus from an immature vesicle. Thus we are informed by Willan, that if lymph be taken from a vesicle too early, it often proves totally inefficient, and where it does operate, the genuine disease is not produced.

5th. Matter may become degenerate in a vesicle originally genuine. This often happens from the subversion of the specific action of the vesicle by lacerating it to get the virus, or from its being accidentally rubbed, or otherwise molested in its progression.

6th. The genuine pustule may be local, extending no security whatever to the system at large, and thus constituting another source of failure. Not the least striking fact of this nature, came within my own observation, so early as the year 1804. By the late Dr. Stewart, then physician to the dispensary of this city, a man was vaccinated, who seemingly having the genuine disease, matter was taken from his pustule, with which several of his children were successfully infected. The father, after a while, broke out with the natural small-pox, and had it severely—the children, however, escaped, and resisted repeated variolations, as well as vaccinations. In the fifth volume of the Medical and Physical Journal, a case precisely similar, is related by Dr. Harrison, and I have no doubt that others are to be met with.

Lastly. There is reason to suspect, that certain states of the atmosphere, or other occult physical causes, have an influence over the process. Gregory has correctly remarked, that it occasionally happens, that many spurious cases of the disease appear at the same time, and more at the approach of winter, than either in the spring or summer

months. The same fact I have observed myself, though, I think, oftener in very hot weather, and have been in the habit of referring it to the well known operation of heat in the deterioration of the virus. Certainly, it is less efficient under such circumstances, as shown by the greater difficulty of imparting the disease by inoculation.

To establish a test of the efficiency of vaccination, has engaged much attention, and various modes have been suggested, among which revaccination some three or four days after the first operation, was very confidently proposed. It is said, that if the first vaccination be perfect, or in other words, the constitution is adequately affected by it, the vesicle of the second will be so accelerated, that the areola around each takes place simultaneously, both moving on, *pari passu*, and fade together.* But I presume, this proposition involves some fallacy, as it seems not to have been generally adopted, and of late, we hear nothing of the practice. To revaccinate at some period after the case is over, is more common. The system being protected, it loses its susceptibility to the vaccine impression, and instead of a genuine vesicle, a slight erysipelatous inflammation, or small phlegmon, ensues, which usually soon subsides. But in the latter particular it may be otherwise, and I have seen very sore arms, painful axillary swellings, and fever, thus induced. Nor can the expedient be entirely trusted. Either from defect of the virus, or peculiar condition of the system at the time, the second operation may be defeated, or run the course I have described. It affords, at best, only negative proof. Yet, on the whole, it is to be preferred. The objection to variolation as a test, most strongly urged, is, that we must keep up small-pox, to supply matter for the purpose, and that it is liable to the same fallacies as revaccination. The scar so greatly relied on, though it may show that a genuine pustule has existed, affords no evidence of the general disease, or that the system at large is duly protected. That which is most to be regarded, "is distinct, circular, radiated, and cellulated, and above all is so small, that it may be covered with a pea." This is the language of Gregory, who from his ample experience as physician to one of the large vaccine institutions of London, is well entitled to be heard on the subject.

It is now the practice of the vaccinists of Great Britain, more particularly, to proceed on the supposition, that security is best attained by the multiplication of cotemporaneous vesicles.

"As a general rule," says Mr. Moore,† "it may be advisable to make two punctures in each arm, and when this is properly done, three vesicles, at least, will commonly arise, and if four are excited, it is never to be regretted. If only two vesicles arise, neither should be opened or disturbed,—and if the vaccine proceeds regularly to the end, the vaccination may be considered complete. When three or more vesicles have been excited, lymph may be taken from the subject. But it is prudent always to leave two complete vesicles to pass through their course untouched."‡

* Gregory has recorded an instance where vaccination was retarded for sixteen days, during which time measles had possession of the system. Genuine varicella, on the contrary, he says, does not at all interfere with it, the two affections running their courses harmoniously—which, however, is disputable.

* Bryce on Vaccination.

† History of the Practice of Vaccination.

‡ These are the directions also of the London Vaccine Establishment.

Though emanating from such high authority, I confess that I do not approve of this practice. Even allowing that the multiplication of punctures increases the chances of infection, it cannot tend to ensure the production of the genuine disease. It seems to me, that the suggestion originated in pathological views altogether false, and is without the sanction of any adequate experience of its utility. The system loses its susceptibility to small-pox, not by the quantity of vaccine virus introduced, but by the impression it creates, and to do which, provided it acts, one particle is as effectual as ten thousand. To believe that the living body is capable of saturation by an excess of matter, as happens in a chemical process, which seems to me to be the foundation of this creed, is a conclusion drawn from a very remote analogy, and in itself is futile and absurd. By Thompson, whose inquiries have been so accurately conducted on every point connected with vaccination, it is also stated, that the failures have been as numerous where three as one pustule was raised.* It is, indeed, not a little extraordinary, that such an expedient should have been adopted, after the decided experiments of Kamper, formerly referred to, in relation to small-pox, which so conclusively showed that a single inoculation proved as effective to all intents and purposes as seven, the number which he tried. As a criterion of constitutional affection in this case, I am apprehensive that we are destitute of any, deserving of entire confidence, and that such an attainment is still ardently to be desiderated.

Notwithstanding this, and perhaps some other objections, it follows, I think, on the whole, from what has been said, that the common allegations against vaccination in relation to the ancient form of small-pox, are not well sustained, proceeding rather from the carelessness of the practitioner, than the demerits or imperfections of the expedient. We have, in proof of this, the strong fact, that prior to the occurrence of the varioloid epidemic, no instance of failure occurred in the practice of Jenner, or his nephew Mr. Jenner, and not above eight or ten in that of the National Vaccine Establishment of London, where vaccination was done to an enormous extent. Confirmatory of the same conclusion, we learn from an official report to the British government in 1812, apparently drawn up with care, that out of 2,671,662 cases of vaccination, only seven cases of small-pox had occurred. Can any other reason be required to induce the public to confide, exclusively, the practice to the skilful and experienced?

Of the alleged failures, some, and perhaps many, were not really so. It is admitted, that varicella may be sometimes confounded with small-pox. By Willan, whom, I have said, was, above all men, skilled in the diagnosis of this order of diseases, it is declared, that in six years he saw seventy-four cases of chicken-pox, which had been mistaken for small-pox after vaccination.

Conceding, however, to the fullest extent claimed by its opponents, the failure of vaccination, the instances are probably not more numerous than of variolation. But this, and all else, which I have said, apply only to a former state of things. We

are henceforward to contemplate the subject in a far less favourable point of view—and here a stage in the inquiry is reached, when it becomes proper to introduce some account of the varioloid epidemic.

(To be continued.)

Remarks on Mr. HOPE'S Camphor Mixture in Dysentery. By C. D. MEIGS, M. D., Lecturer on Midwifery, &c.

To the Editors of the Medical Examiner.

Gentlemen:—I have seen in a late number of your valuable journal, some observations on dysentery in a lecture by Dr. Gerhard. In that lecture he adverts to the use of Hope's Camphor Mixture, and dwells on it with less emphasis than appears to me desirable. Hence I beg leave to trouble you with the following remarks.

Thomas Hope, Esq., a British Naval Surgeon, published in the Ed. Med. and Surg. Journal for July, 1826, "Observations on the powerful effects of a Mixture containing Nitrous Acid and Opium in curing Dysentery, Cholera, and Diarrhœa." His paper bears date "Chatham, April 19th, 1826." He says, "In March, 1800, I communicated in a letter to John Pearson, Esq., of Golden Square, the discovery of this useful remedy, and my observations were printed in the 3d vol. of the Lond. Med. Journal, and afterwards in the 2d vol. of the Edinburgh Practice of Physic, published in the year 1803."

Dr. H. states that since the above period he has continued the use of the remedy with unvaried success, and among other evidences of its power he relates that, in 1815, a medical officer of rank put under his care five men who were invalided in hospital, who were deemed incurable, had taken the sacrament, and were quietly waiting their fate. The medicine was administered and cured three of them. In 1819, twenty-six men were invalided for dysentery, from the West Indies, and divided into wards, eleven in one and fifteen in the other. It was agreed that the fifteen should be treated with the acid mixture, and the eleven in the usual manner. Of the fifteen patients, twelve were cured, and three died:—whereas, of the eleven patients, three recovered and eight died.

Mr. Hope gives many other very encouraging relations of his success, which it is not, perhaps, necessary to cite here, but which render his paper so interesting that I should be very much pleased if it could be republished entire in this country. I will, however, cite the fact that on board the *Ganymede* frigate, in 1821, many cases of cholera and diarrhœa were successfully treated. Also that on board the *Dolphin*, in 1824, he treated seventy-one cases of disorder of the bowels, many of them remarkably severe. Not one of the patients died. Not one of them had occasion for more than five doses, and many required only two. On board the same ship, in July, 1825, two hundred and sixty-four cases of cholic, dysentery, cholera, and diarrhœa occurred. Not one of these died, which he attributes as striking evidence of the curative effects of the acid mixture.

* Thompson on Varioloid disease, p. 314.

The formula for the composition of the medicine as used in all Mr. Hope's cases is as follows:—

R. Acidi Nitrosi, ℥i.
Mist. Camphoræ, ℥viii.
Misce et adde
Tinct. Opii, gtt. xi.

Sig. One fourth part to be taken every three or four hours.

He says, "A small addition of syrup of red poppies improves not only the appearance of the mixture, but, in some instances, it has appeared to increase its effects."

Mr. Hope considers that no previous preparation is required for its exhibition in chronic dysentery. The dose of two ounces three times a day is quite sufficient; in these cases he recommends that the hands and feet should be kept warm while using the medicine, and that the body should be preserved as much as possible from exposure to extreme cold, or currents of air. The patient should make use of warm barley water or thin gruel, and a diet of sago and tapioca.

Mr. H. insists on the use of *nitrous* and not *nitric* acid in the formula.

Such, Messrs. Editors, is the too short abstract which I have made of Mr. Hope's valuable paper. I wish now to say, that I was attending a carpenter named Miller, in this city, I think in September, 1826. I had exhausted all my means of cure in his case,—viz. venesection, calomel, and opium, emulsions of oil, anodyne enemata, &c., and, after many days of intense suffering, he was still tormented with tormina and tenesmus which called him up from thirty to forty times per diem. I was exceedingly doubtful as to his safety, when I received my July number of the Edinb. Med. and Surg. Journal containing Mr. Hope's paper. I read it, procured the acid mixture, he took eight doses and was well thenceforth. Since that time I have habitually resorted to the use of Mr. Hope's medicine. I have recommended it to my medical brethren, and it has come to be much in use in our city. But it is given in doses too small, and hence the rather faint praise which it meets at the hands of some of our medical gentlemen. I am ready on my part to avow that I have less reason to feel disappointment, after adopting Mr. Hope's practice, than I usually have had, upon trying methods boldly vaunted by the writers in our medical journals. I have used it with the most happy results in numerous cases of cholera, of ordinary cholera morbus, diarrhœa, dysentery, and cholera infantum. I think it fully deserving of all the commendations lavished on it by Mr. Hope, and I earnestly desire that the readers of your useful work may make a fair trial of it in the dysenteries which now prevail.

I shall add, that regarding mœlina as a discharge from the liver, and, therefore, possessing some remote resemblance to cholera morbus, I have in several very dangerous cases of that disease, attended with profuse hematemesis, prescribed the Hope mixture, and always with the happiest result.

Very respectfully your friend, and servant,

C. D. MEIGS.

BIBLIOGRAPHICAL NOTICES.

ELEMENTS OF PHYSIOLOGY. By J. MÜLLER, M. D., Professor of Anatomy and Physiology in the University of Berlin, &c. *Translated from the German, with notes*, by WILLIAM BALY, Member of the Royal College of Surgeons, and Graduate in Medicine of the University of Berlin. *Illustrated with steel plates and numerous wood engravings. Parts I., II., and III., containing General Physiology; the Blood and Circulating System; the Lymph and Lymphatic System; Nutrition, Growth, and Re-production; Secretion; Digestion, &c., &c.* London: 1838. 8vo. pp. 848.

THIS is another and admirable treatise, emanating from, what may be called, the native soil of physiology. Nowhere, from the time of Haller to the present day, has the science of life been cultivated with more untiring zeal, or have more important contributions been made to it, than in Germany. Within a few years, indeed, several systematic works of great merit have appeared from the German press; but these are all still fragmentary, the progress of some having been interrupted by death, or the altered purpose of their author, and the remainder, not yet completed, are now in the course of publication. Although vast genius, labour, and research have been evinced by these investigators of the vital phenomena of the animal economy, their conclusions have too often been warped by prejudice, or disfigured by the ethical subtleties and metaphysical jargon of the schoolman, which has tended very much to impair their actual value, and circumscribe their utility. From these defects the present work is entirely free. It is purely practical. The author, though still in the prime of manhood, has been long known as an indefatigable and zealous cultivator of physiology, and of those branches of science upon which it is based. His numerous invaluable contributions to the periodical literature of his country, besides his larger works on the Physiology of Vision, the Intimate Structure of the Glandular System, and his Anatomy of the Myxinoidæ, have already given him an enviable and merited reputation. Müller is the worthy successor of the celebrated Rudolphi in the physiological chair at Berlin.

The present work, under the unassuming title of Elements of Physiology, exhibits concisely and clearly the actual condition of the science. All the known facts, worthy of record, are given, and the relative value of each, scanned and accorded. Great acuteness and cautiousness, combined with fairness and liberality, are exhibited in the examination of the opinions and theories of the various

writers in this department of medicine, and the author's own investigations and their results are mentioned with singular modesty. The importance of an accurate and intimate knowledge of comparative anatomy and physiology, and of organic chemistry to the physiological student, is exhibited in the strongest point of view. They are the beacons by whose light we are to be guided in the discovery of those human phenomena yet unknown. When on the subject of these unsolved processes our author exhibits a commendable abstinence from speculation, candidly pleads ignorance, and clearly and philosophically defines what course will be most likely, by inflexible industry, and suitable inquiry, to lead us to fortunate and correct conclusions. The difficulties of the science are investigated with incredible and untiring perseverance and ability, and such beautiful and simple analyses made of the prominent facts, that were our acquaintance with the principle of life more exact and thorough, the most abstruse and intricate physiological problems would meet with a ready solution. The growth of the science, from the daily accumulation of facts, is so rapid, that with the system here recommended and pursued, we need not despair of beholding, ere long, physiology assuming a definite position among the exact sciences. A considerable portion of the work has been already translated by Mr. Baly, and the three first parts have reached this country. By those who have had an opportunity of comparing it with the original the most unqualified praise has been bestowed. The third part, which has been lately received, contains the completest and clearest history of the present state of the physiology of the nervous system that the general student could desire. The *Elements of Physiology* should be in the library of every physician in the country, who wishes to possess, in a small compass, the ablest physiological record of the age.

Report on the Cases of Typhoid Fever, or the Common Continued Fever of New England, which occurred in the Massachusetts General Hospital, from the opening of that Institution, in September, 1821, to the end of 1835. By JAMES JACKSON, M. D., late Attending Physician. 8vo., pp. 95. Boston, 1838.

Dr. JACKSON has but rarely appeared before the public in the character of an author, preferring, as he does, to earn silently and tranquilly the honour which awaits the persevering and faithful practitioner, to the questionable glory of weaving theories, or building up imperfect systems, by the premature generalization of a few facts. During

the long period of his connection with a large public hospital, a connection which has now continued for seventeen years, he has scarce ventured to produce any work of more formal character than an occasional contribution to a public journal, or a memoir to enrich the transactions of the State Medical Society, of which he is a prominent and respected member. With these exceptions, the results of his experience have been communicated, almost exclusively, in an oral form to the students, who have attended his lectures at the Boston Medical College, or have followed him in his tour of clinical duty. To the truly practical character of the instruction thus given, and to the peculiarly unassuming manner in which it is conveyed, we can bear abundant testimony. Conscientious to an extreme in the statement of facts, and cautious almost to a fault of drawing unwarranted conclusions, he has ever been listened to with that respect and confidence, which nothing short of a pure and ardent love of truth can inspire, and which have rarely fallen to the lot of the most brilliant and eloquent lecturers. It is as a clinical teacher that Dr. J. has especially distinguished himself. The duties of the hospital to which he was and is attached, have ever been performed with a fidelity and completeness which are, perhaps, without a parallel in this or any country. The history of every case, both previous to its admission, and during its stay in the hospital, has been entered, at his dictation, on the records of the house, where each case appears under its appropriate head with the phenomena and prescription of each successive day. The labour necessary to effect this in a hospital containing thirty to forty medical beds was not trifling; and, accordingly, three or four or even five hours of daily attendance in the wards of a public institution was never deemed too much by this practitioner, even when engaged in an extensive and lucrative private practice. This labour, formerly followed up for six months of each year, and lately for four, has furnished to Dr. J. a familiarity with the facts of the cases, which renders him an invaluable clinical instructor, and he has spared no pains in rendering the knowledge, thus acquired, available to his students. A peculiar diffidence and self-mistrust, however, combined with the cautious habits of mind already alluded to, have hitherto prevented him from giving the results of his labours to the public in any systematic form; and it may be doubted whether, in this form, the experience of this enlightened practitioner in disease, is ever destined to be presented to the profession.

The work before us, announced with the modest title of a report, is, we presume, published by the

learned society to which it was communicated. It is based on the author's observations at the hospital during fourteen years; almost all the cases referred to, however, having occurred between 1824 and 1835. The number of these which were well marked and decided in character, was three hundred and three; besides sixty-five more doubtful, but two-thirds of which Dr. J. thinks may be added to the former number. Of the three hundred and three decided cases, forty-two proved fatal; of the sixty-five others, but one; so that if forty of the latter be admitted into the account, the mortality will appear to have been forty-three in three hundred and forty-three, or one in eight nearly. Dr. J. assigns as his reason for the adoption of the term typhoid, the identity of the disease with that described by Louis under this title. To the specific grounds of this opinion, we shall presently revert. Among the introductory remarks, we have some curious and valuable information in regard to the mode of practice adopted, both by the author and by the New England practitioners generally, in continued fever. An emetic or cathartic, or both, frequently both in combination, are administered at the outset; then antimonials are given in nauseating doses for twenty-four, thirty-six, or forty-eight hours; and, after this, calomel is resorted to, usually so as to produce slight constitutional affection, but in grave cases pushed to salivation. Local bleeding is very commonly practised, but venesection much less frequently resorted to than in other parts of the country. Dr. J.'s personal experience has tended to lessen his confidence in the calomel and antimonials, but to confirm him in the propriety of early evacuations.

Among the more interesting of the individual cases, is one related, (p. 44,) in which profound stupor continued for three successive days, but without preventing a favourable termination.

It is worthy of observation, that while the disease, in its leading features, remained true to itself, particular symptoms predominated at different periods. For example, epistaxis occurred in one fourth of all the cases. But in 1834, it showed itself in seven of twelve, and, in the same year, in ten of fourteen successive cases; that is, in nearly two-thirds. Deafness occurred in about one-seventh of the whole. In 1833, it was present in seven of eight successive cases. In 1829, of twenty-five cases, twenty-four in succession terminated favourably. Dr. J. finds the facts he has collected unfavourable to the doctrine of contagion.

In a large proportion of the fatal cases, examinations were made after death. But it was not till October, 1833, that the intestines were properly

examined. When examined, the diseased appearances in Peyer's glands, described by Louis, were noticed. In all the examinations, eleven in number, from October, 1833, to the end of 1835, similar morbid changes were found.

The following facts are presented, (p. 27,) as illustrating the advantage of early admission into the hospital.

Of ninety cases admitted in the first week of the disease, seven, or 1 in 12.85 were fatal. Of one hundred and thirty-nine admitted in the second week, sixteen, or 1 in 8.68. Of forty-six admitted in the third week, ten, or 1 in 4.6. Of twenty-one admitted after the third week, five, or 1 in 4.2 were fatal. Again: in those who recovered, the average day of convalescence was, in those admitted in the first week, 17.42; in the second, 21.21; in the third, 25.52; in the fourth, or later, 43.93.

That these results prove much in favour of the regimen and treatment adopted in the institution, is evident; but the precise degree of this influence, which no one at all acquainted with the author could for a moment suspect him of wishing to exaggerate, is masked to the reader by the absence of information on two points, one of which could be ascertained with some approach to accuracy. These are—1. The degree, in which the probability of a fatal termination on the one hand, and that of recovery on a particular day on the other, were affected on each successive day by the number of days which had already elapsed. 2. The circumstances which, after a certain time, would determine the dismissal of cases from private practice, and their transfer to the wards of a hospital. To the latter consideration we do not attach much importance; though it is evident that the cases of mild character, and which promised well, would, *ceteris paribus*, be more likely to remain under private treatment than others. No desperate case, we presume, was ever admitted to the hospital; but there are grades of danger below this, not difficult to be perceived by a practised eye, and the more unpromising the aspect of the patient after the lapse of eight or ten days, the stronger in many cases would be the disposition of those around him to have him removed to a public institution, provided sufficient confidence was felt that no hazardous experiments were to be tried, and that the body could not be subjected to post-mortem examination without express permission.

The other consideration alluded to, viz., the operation of time itself in modifying the probability of ultimate death or of recovery on a certain day, is of more importance. The calculation, however, at best, would be a complex one, and its elements could only be furnished by a table which should

present the day of convalescence in each favourable, and of death in each fatal case. Such a table the author (having other objects in view) has not thought it necessary to furnish; from a remark, however, which occurs, (p. 33,) we infer that convalescence sometimes occurred on the fourth day, and not unfrequently within the first week.

We have already remarked, that the term typhoid, as applied to the continued fever of New England, has been only recently adopted by Dr. JACKSON. The same disease has been heretofore known by the name of typhus, bilious, nervous, and continued fever; and the first of these is the term which Dr. J. himself was accustomed to employ. The change, he tells us, is made in compliance with the suggestion of Dr. GERHARD, of this city, who proposes to restrict the term typhus to the disease recently described by him, (vide *American Journal of the Medical Sciences*, Feb. and Aug., 1837,) as having occurred extensively in the Philadelphia hospital. Dr. J. finds that the fever of New England agrees precisely with the typhoid of Louis, and differs in kind as well as degree from the typhus of Dr. J. We propose, in the remainder of this notice, to verify the first of these positions, so far as symptoms are concerned, by a collation of the numerical results obtained at Boston from 1821 to 1835, with those procured by Louis, in Paris, between 1822 and 1827.

Diarrhœa.—JACKSON reports two hundred and ninety-seven cases, in reference to diarrhœa—in one hundred and sixty-seven of which it was observed, or 1 in 1.77. Louis (*Recherches*) gives one hundred and twenty-eight cases, in five of which only it appears to have been absolutely wanting; so that it was present in one hundred and twenty-three of one hundred and twenty-eight cases, or 1 in 1.04. Some uncertainty must obviously rest on this branch of the comparison, as the number of daily discharges which may be considered as constituting diarrhœa, is not stated by either observer. By both it is regarded as an unfavourable symptom. L. remarks, that the frequency of the discharge was proportionate to the severity of the other symptoms; and J. finds that this symptom was followed by death in 1 case in 5.21, while its absence preceded a fatal termination in but one of thirteen cases.

Pain and tenderness of Abdomen, and Meteorism.—Of the precise proportion of these occurrences to the whole number of cases, Dr. J. has preserved no precise account, but represents them all as frequent. According to the observations of M. Louis, pain occurred in a greater or less degree in all except five; that is, in all the cases which proved

fatal, and in seventy-three of eighty-eight which terminated favourably. Meteorism occurred in thirty-four of forty-six cases which proved fatal, and in fifty-five of eighty-eight which recovered.

Tongue.—J. notes the tongue as coated or furred in nearly all the cases; dry in one of two cases; denuded in 1 of 5.5; and dark in 1 of 6.28. L., on the contrary, found the tongue nearly natural in one-third of the subjects who died, and in 32 of the 89 cases which recovered. In regard to the particular morbid symptoms presented by this organ in the remaining cases, they are described in terms so different from those employed by Dr. J., that it would serve little purpose to recount them. In general, the French pathologist seems to have attached little importance to the condition of the tongue, the morbid states of which he considers as deserving examination only on their own account, and not as indicating a similar state of the mucous membrane of the stomach. (Rech. ii. 106.)

Dysphagia.—A difficulty of deglutition, sufficient to notice, occurred to Dr. J. in twenty-one cases, of which four were fatal. M. Louis met with this symptom in ten cases out of forty-six who died, and in thirteen of fifty-seven severe cases which recovered. This symptom, which M. Louis is not willing to regard as ever merely nervous, and independent of lesion, is by no means always in proportion to the extent of this lesion. Dr. Jackson considers it, when existing in a severe form, as implying a high degree of danger.

Headach.—This symptom was noticed by Dr. J. in the early period of almost every case. Louis remarked only four exceptions in the forty-six fatal, two in the fifty-seven grave, and three in the eighty-seven favourable cases. The latter remarks its disappearance at the approach of delirium or stupor.

Somnolence.—This symptom was observed by Dr. J. in forty-seven cases, or 1 in 6.44; among the fatal cases, in 1 in 3.81; among the favourable, in 1 of 7.15. Although among the unfavourable symptoms, it was not, even when existing in a great degree, uniformly followed by death. To M. Louis it occurred in all the fatal cases except five, or in eight of nine subjects; of the fifty-seven grave cases which recovered, eight escaped it, and of the thirty-one mild cases, nineteen only gave evidence of its presence. The character of the affection, especially when amounting to stupor, is described in almost the same terms by both authors.

Delirium.—This symptom occurred to Dr. JACKSON in one hundred and eight cases, or 1 in 2.8; that is in 1 of 3.48 of the favourable, and in 1 of 1.27 of the fatal. This statement is not to be re-

garded as including the mildest cases. M. Louis found it in thirty-eight of his forty-six fatal cases, but as in two of these it was transitory, and in two an immediate precursor of death, the number may be reduced to thirty-four, or 1 in 1.35. Of the severe cases, delirium was present in thirty-nine out of fifty-six; and of the milder ones, three only manifested it. On the whole, then, delirium occurred in forty-two of eighty-seven who recovered, or in the ratio of one to two nearly.

Subsultus tendinum.—This was noted by Dr. J. in 1 case in 8.18, viz., 1 in 3.81 of the fatal, and one in ten of the favourable. By Louis, in four of forty-six fatal, and in three of eighty-eight favourable cases. More importance, however, seems to have been attached to this particular form of spasmodic action, and probably more attention was directed to it at Boston than in Paris.

Rigidity of Limbs was noticed by Dr. J. in five of the fatal cases, or 1 in 8.4; and in one of the two hundred and sixty-one favourable; by Louis in four of forty-six of the fatal cases. Cramp was noticed by Louis in one case, and catalepsy by Dr. J., in three.

Deafness was noticed by Dr. J., in forty-five cases, or 1 in 6.7, viz., 1 in 4.66 of the fatal, and 1 in 7.25 of the favourable. By Louis, in twenty of thirty fatal, and in thirty-eight of fifty-seven favourable, being precisely the same proportion in both. It is probable that slighter degrees of the affection were recorded by the latter than the former observer.

Taches roses.—Of one hundred and six cases noticed by Dr. J. in reference to this symptom, two in three had rose spots, viz., nine of eighteen fatal, and sixty-one of eighty-eight favourable cases. M. Louis found them in twenty-six of thirty-five fatal, and in all the favourable cases, except three, two of which, it is remarked, did not come under treatment till the fourteenth day.

Sudamina.—Of the one hundred and six cases noticed by Dr. J., in reference to these vesicles, forty-one were found to exhibit them, or 1 in 2.58. Of the eighteen fatal cases, four had sudamina; of the eighty-eight favourable cases, thirty-seven. Hence Dr. J. finds them a more favourable symptom than rose taches. M. Louis found them in the proportion of two to three of the number examined, both in the fatal and favourable cases.

It would appear from this parallel, and likewise from a comparison of the more general symptoms, that the French disease differed from the American in its greater intensity and fatality, while the main features of both were identical. It would lead us too far to inquire why, in three hundred and three

patients, Dr. JACKSON should have lost but forty two; while of one hundred and twenty-eight cases treated by Louis, forty proved fatal. It is evident, however, that a peculiar mortality awaited that numerous class of persons who had just exchanged the pure air and regular habits of the country, for the exhalations of the Paris streets, and for the temptations to excess offered by a city life. No class resembling this, is to be found in the capital of New England. E. G. D.

THE MEDICAL EXAMINER.

PHILADELPHIA, AUGUST 29, 1838.

IN the August number of the Medical Journal of the Medical Sciences, is a "Statistical Account of the Cases of Amputation performed at the Pennsylvania Hospital, from January 1st, 1831, to January 1st, 1838," communicated by Dr. GEORGE W. NORRIS, one of the Surgeons. From this paper, it would appear that a much more unfavourable result is likely to attend the operation of amputation, than, without the indisputable evidence of investigations like the present, surgeons, in general, have hitherto been prepared to admit. Hospitals afford the only extended field for the prosecution of exact observation, with any reasonable prospect of ultimate advantage. The opportunities afforded by the most enlarged private practice for the study of any individual disease, must necessarily be limited; and various causes combine to render it otherwise defective. It must, then, be a matter of deep regret, that these institutions are not made subservient to the observation and accumulation of facts, and consequently to the advancement and perfection of science. The basis of knowledge is the collection of well-ascertained facts; and any attempt at generalization, before an extensive acquisition of them has been made, must necessarily be unadvised and premature, and lead to hasty and incorrect conclusions. Persons are too apt to rely for their opinions on their own impressions, instead of depending on a careful notation of facts; and the inevitable consequences, are partial and erroneous views. They will boast of their success in particular diseases; and when reference is made to their case-book, the record usually contradicts the experience of the candidate for therapeutic immortality. The founder of the numerical school of medicine himself acknowledges, that whenever he was tempted to make *a priori* conclusions from recollection, on submitting them to the test of arithmetical analysis, he invariably found them to be erroneous.

We have been induced to make these brief ob-

servations from the perusal of Dr. NORRIS' valuable communication, as well as one on the same subject, by Mr. BENJAMIN PHILLIPS, of London, (*Medical Gazette*, June, 1838,) in both of which, by patient inquiry and rigid analysis, results have been obtained respecting a highly interesting and important subject, which will, we suspect, startle not a little many a practical surgeon, who, in the absence of all exact evidence, has been disposed to regard amputation as an operation which, under favourable circumstances, is attended with little hazard. Dr. NORRIS says:

"Contrary to the opinion generally prevalent in this country, amputation, even under favourable circumstances, is frequently followed by fatal results in civil hospitals. In the practice of the Hôtel Dieu, of Paris, it is said that not more than half of the cases prove successful; and I have the authority of M. Hache, a former interne of the hospital of St. Louis, of the same city, for stating, that out of twenty successive amputations made in the year 1833, in that institution, twelve died." (p. 356.)

After a tabular view of the operations performed in the Pennsylvania Hospital for the last seven years, Dr. N. observes:

"Of the above 56 amputations on 55 patients, 24 were primary, of which 14 were cured, and 10 died; 4 of the deaths occurring within the 24 hours immediately following it; 12 were secondary, of which 5 were cured and 7 died; 20* were for the cure of chronic affections, of which 15 were cured and 4 died; 23 of the amputations were of the upper extremity, of which 18 were cured and 5 died; 33 were of the lower extremity, of which 17 were cured and 16 died; 6 were amputations at the joints, of which 4 were cured and 2 died.

Of the 55 patients operated on,

9 were under 20 years of age, of whom 8 were cured and 1 died.

21 between 20 and 30—15 were cured and 7 died.

16 between 30 and 40, 9 " 7 "

9 between 40 and 50, 3 " 6 "

From this resumé of seven years' practice at the Pennsylvania Hospital, it appears,

1st. That amputation is to be regarded as an operation attended with much danger to the life of the individual.

2d. That the chances of success after it are much greater in persons who have been for some time suffering from chronic diseases, than in those who have it done whilst enjoying robust health.

3d. That amputation of the lower extremity is much more fatal than that of the superior member, and

4th. That the danger increases with the age of the individual operated on.

I possess no means for comparing these results with any tabular statements of the success after amputations had in other public institutions, either in this country or in Europe, but the following have

been published by some French surgeons as the results of their individual practice. In all of them attempts at union by the first intention, are stated to have been made.

Surgeons.	No. of Observations.	Proportion of Deaths.
Dupuytren,*	29	1 in 3
Roux,†	—	1 in 3
Hyp. Larrey,‡	57	1 in 6
Dubois,§	28	1 in 9

The unfortunate termination of amputations in France, is attributed, by their surgeons, in the generality of cases, to phlebitis and purulent absorptions. For a long period this termination was thought to be very rare in this country, but post-mortem examination has made known the existence of it in many of the deaths that took place with us, and from all the information I have been able to obtain, I am led to believe that it occurred in the majority of them."—(p. 364-5.)

Mr. PHILLIPS' paper was read before the Royal Medical and Chirurgical Society, in November, 1837. He appears to have been at great pains to obtain correct results; and no doubt can, we think, be entertained of their accuracy, as every precaution seems to have been taken to guard against error. He proposes to show, as the result of his inquiry, that "the mortality after amputation is very great—much greater than is usually believed."

"The amputations included in this inquiry are those of the arm and the forearm, the thigh and the leg. The whole of them have been performed within the last four years in civil hospitals, and in the private practice of hospital surgeons. The gross number of cases is 640; and this number embraces all cases, acute, chronic, and the results of violence, which have occurred in the practice of the persons by whom the returns have been furnished within the period I have named. Of these cases 490 are reported "cured," and 150 died, either in consequence of the operation, or the progress of the disease, to rescue the patient from which, recourse was had to the operation.

"I apprehend that a large number of our professional brethren are unprepared for such a result; I have only met with very few who were at all sensible of the extent of the mortality which occurs.

"Compared with lithotomy, amputation and the ligature of arteries are often, perhaps commonly, held to be unimportant operations; and yet the results show a very great balance in favour of the success of lithotomy."—(p. 459.)

"I have now shown that the mortality succeeding to amputation is very great—23 per cent. I shall therefore proceed to analyse the gross number, and exhibit the proportion furnished by the different countries implicated in the inquiry. They are as follows:

* *Leçons Orales*, tom. iv.

† *Mem. et Observ. sur la Réunion*.

‡ *Sanson. de la Réunion des Plaies*.

§ *Ibid.*

* One of the patients here included suffered double amputation.

	Cases.	Deaths.	Per cent.
France, . . .	203	47 or	$23\frac{31}{103}$
Germany, . . .	109	26	$23\frac{93}{109}$
America, . . .	95	24	$25\frac{5}{19}$
Great Britain, . . .	233	53	$22\frac{174}{233}$
	640	150	$23\frac{7}{16}$

"Here is an average number of deaths, amounting to, as near as may be, $23\frac{1}{2}$ per cent. If the several countries be taken separately, we find that France is a fraction below this average; that Germany differs only to the amount of a fraction from France; that America only exceeds the average by a little more than 2 per cent.; and that Great Britain is a fraction below the average."—(p. 460.)

Mr. PHILLIPS then proceeds to examine the causes of this unsuccessful result, and what effect the attempt to procure immediate union of the wound exercises in their production. He thinks that there is a large and well defined class of diseases in which, after amputation, union by the first intention cannot, as at present practised, be so successfully employed, as that in which it is consecutively obtained. This class of diseases, are "diseased articulations, with considerable purulent discharges, necrosis, caries, and extensive old-standing, suppurating surfaces." Of 640 cases constituting the gross number of his tables, 213 were of this kind.

"Of these cases, immediate union was attempted in 117; consecutive union in 96.

Of the 117 cases, 88 only succeeded; the deaths amounted to 29.

Of the 96 cases, in which the treatment was by consecutive union, 76 succeeded; the deaths were 20.

Of these cases, Great Britain furnished 86; the other countries included in the observations, 127.

Of the 86 cases, immediate union was attempted in 60; consecutive in 26, and with the following result: of the 60 cases there were 15 deaths; of the 26 there were 5 deaths.

Of the 127 cases, immediate union was attempted in 57 cases; consecutive in 70.

Of the 57 cases, 14 were unsuccessful, the patients died, and 43 succeeded. Of the 70 cases where consecutive union was employed, there were 15 deaths. The results, therefore, attendant upon the practice of immediate union, are a mortality amounting to 25 per cent.; upon consecutive union, of nearly 21 per cent.

And there is a singular uniformity attendant upon the results of these two modes of practice, as shown by the returns furnished by our own and the other countries; and all are strongly confirmatory of the prudence of avoiding immediate union in this large and well-defined class of diseases.

As I trust this has been made sufficiently evident, it may now be asked, in what way is this increased fatality, which is attendant upon immediate union, to be explained? With respect to a portion of the cases, the explanation is easy. They have been produced by phlebitis and purulent ab-

sorptions; pus being found in the lungs, liver, and other situations.

The reason why, in such cases, the tendency to this termination is more frequent than in ordinary cases, is, I apprehend, because the disposition to purulent secretion in the diseased organ still continues; and because immediate union might prevent its evacuation, and so cause constitutional disturbance and absorption.

In a certain number of cases, "visceral congestion" is occasioned by the suppression of the accustomed secretion; diarrhœa supervenes, and the patient dies.

My information is not sufficiently precise to enable me to state the precise proportions of deaths which have been brought about by these several means: under the terms "visceral congestion, abdominal disturbance, and diarrhœa," I have nineteen. Neither am I able to state, with any thing like accuracy, what is the organ in which such disturbance is commonly manifested; but it is evident that the mucous membrane of the intestines, in such cases, is very frequently affected."—(p. 462.)

On this point, Dr. NORRIS says:

"In none of the operations that I have ever witnessed, has the attempt at immediate reunion obtained a full and complete success. Not unfrequently I have seen a part of the wound united at the first dressing; but in all these cases there has always been a portion of it, other than that at which the ligatures pass out, which has suppured. In two or three instances, I have known the edges of the skin forming the flap, completely adherent, without being in any degree attached to the bottom of the wound, so that the pus secreted has had no outlet, and the end of the stump has been soft and fluctuating, presenting all the appearances of an abscess."

We trust soon to see other hospital surgeons following the example of Dr. NORRIS, and publishing the result of amputations in the several institutions to which they are attached.

CLINICAL REPORTS.

PENNSYLVANIA HOSPITAL.

Case of Hernia Cerebri, following a compound Fracture of the Skull.

[Reported by J. FORSYTH MEIGS, M. D., Resident Surgeon.]

CATHARINE K—, æt. 37, was admitted July 13th, 1838, for an injury of the head. It was stated, by the persons who conveyed her to the hospital, that a short time previous to entrance, she had slipped, while descending a flight of steps, with a bucket of water, and struck her head against the edge of one of them. On examination, a ragged wound, about three inches in length, was found on the right side near the junction of the temporal and parietal bones. The bone immediately beneath the wound was broken into two or three pieces, and driven in upon the brain. She was said to have lost much blood, but when I saw her, the bleeding was principally from beneath the depressed bone, and was not great. No symptoms of concussion or compression of the brain existed.

Pulse feeble; pupils natural; no paralysis. An attempt was at once made to raise the depressed portions of bone by means of the elevator, but these were so firmly jammed in as to make it impossible, until after the application of a small trephine. A perforation was made with this on the upper part of the exposed sound bone, after which the portions driven in upon the brain were readily removed. The dura mater was found to be slightly wounded, and a branch of the middle artery was divided. There was no effusion of blood between the dura mater and bone, and, on raising the latter, the hæmorrhage almost ceased. A strip of lint was placed over the divided vessel, and the wound was lightly covered. The pulse rose, and the patient, through an interpreter, stated her pain to be less after the removal of the bone. Perfect quiet, absolute diet, cold to head.

July 14th.—Is without fever or pain in the head; slept well; pulse moderate; pupils natural; states herself to be four months gone with child.

July 16th.—No pain in the head; pulse not excited; slight erysipelatous swelling of the scalp around the wound; simple dressings to wound; diet, and cold to head continued.

July 17th.—She was purged with calomel.

On the morning of the 19th, the erysipelatous appearance had disappeared, and she continued doing well till night, when she was observed to wander in her mind.

On the 20th, she complained of soreness of the wound, which, however, looked well and discharged healthy pus; skin pleasant; some heat of the head; pulse moderate, both in force and frequency; pupils natural; tongue clean; is correct in her replies to questions; simple dressing and cold to head continued. Towards evening she had a return of her delirium, and a twisting of the mouth and tongue to the left side was observed. Emplast. viscat. to back of neck; injection.

July 21st.—Delirium continues, but is not violent; rested badly; twisting of mouth and tongue continues, but has not much increased; cannot raise up her left arm from the bed or seize anything with her fingers; no paralysis of lower limbs. Calomel in small and repeated doses; minute doses of opium were afterwards combined with it, in order to prevent its operating upon the bowels.

July 23d.—She continued in the same state as on the 21st. The blister on the back of the neck not being very sore, a second was applied extending up upon the head.

July 25th.—Yesterday and to-day the patient has been much better. Twisting of the mouth is scarcely perceptible; free from delirium and pain; gums slightly sore; has partially regained the use of her arm, being able to raise it from the bed and to move slightly the fingers. Wound looks well and is closing rapidly; dressings of simple cerate continued, and nit. argent. applied to edges of the wound; calomel, and cold to the head omitted; bowels freely moved.

August 1st.—Since the last date the patient continued steadily improving. Yesterday a slight degree of puffiness or elevation at the wounded part was observed, which has to-day increased; pulsation of that part is also stronger; has to-day

less power over the left arm than on 25th ult.; is exceedingly feeble; takes freely of mucilaginous articles of diet and milk; pressure just sufficient to give that degree of support to the part which it should naturally receive from the dura mater and bone, to be made with an adhesive strip.

August 4th.—The swelling and pulsation at wounded part continued the same; is free from delirium, though more dull; paralysis of left upper extremity has been again gradually increasing; perfect command over lower extremities; tongue clean; appetite good, and she complains of her debility; pulse very feeble; within the last two days has, at times, passed her urine involuntarily; soreness at wound but no pain in head. Bowels freely opened by injection; milk, gruels, and weak broth for food.

August 9th.—No change since the 4th except that the swelling on the side of the head has much increased since yesterday; pulsation stronger in it; is now about the size of a black walnut; no fever, and is correct in her answers; wound continues to be dressed with lint spread with cerate and the adhesive strip.

August 10th.—Swelling and pulsation not increased; a portion of the tumour, elliptical in shape, about an inch and a half long and three lines wide, is divested of the covering around the remaining part, and has the appearance of cerebral substance. No other alteration in the condition of the patient; same dressings and diet continued.

August 12th.—A piece of the inner table of the skull, of the size of the nail of the little finger, was removed from the posterior portion of the swelling. The swelling is somewhat softer; no alteration in the size of it, or in the strength of the pulsation; free discharge of pus from wound; the paralysis of the left upper extremity is perfect; the patient can move the left leg, but only partially; sensation, however, in the limb is normal; urine passed involuntarily; no fever, and answers correctly. Same diet and dressings continued; bowels opened with an injection.

August 13th.—Complains of some pain in the head; more tenseness in the tumour; no other alteration noticed. Same diet and dressings.

August 14th.—Complains of much pain in the head; is dull, and roused with difficulty; indisposed to reply to questions, though correct in her answers. Restless during the night, but no delirium; pulse slow and feeble; extremities cool; the tumour has considerably increased in size, in the direction of the ear; pulsation in it is strong. The same dressings continued; broth, gruels, &c., for diet; warmth to extremities; an aperient injection.

August 15th.—Complains of pain in the head; dull; indisposed to talk, but correct in answers; pulse fuller than yesterday; extremities warm; tumour about the size of a pullet's egg, though not of the same shape; pulsation very evident; the same diet and dressings continued.

August 16th.—Complains of much pain in the head; slightly delirious during the night; extremely dull; answers only in monosyllables, but correctly; complete paralysis of both the leg and arm of the left side; sensation not affected; pupils natural and sensible to light; pulse 80, and

very feeble; appetite very good; tumour about the same size as yesterday; a portion of it about the size of a preserved black walnut, protrudes through the wound, and is covered by a vascular membrane supposed to be the pia mater, except in the elliptical space before mentioned, which has the appearance of the substance of the brain itself; adhesions exist between the investment of the tumour and the edges of the wound; and a narrow band of integument is stretched across the tumour, between the part covering the membrane, from that in which it is absent; the swelling continues beyond the boundaries of the original wound, elevating the integument, forming an irregular mass of the size before mentioned. The same dressings are continued to the tumour—broth, arrowroot and milk, for diet; bowels opened by an injection.

August 17th.—At 4 o'clock, A. M., stertorous breathing was noticed; patient could not be roused; complete paralysis of left side.

August 18th.—To-day can be somewhat more roused; tumour remains in same state.

August 19th.—Very feeble; pulse 158; respiration 44; skin hot over the whole surface; considerable discharge of pus from tumour, which at one spot presents the appearance of a commencing slough; can with great difficulty be roused so as to speak a few words very indistinctly; mouth very dry; wound dressed with adhesive strips and simple cerate; can swallow only a small quantity of barley water.

August 20th.—Gradually becoming more feeble; pulse over 180; respiration quick and laborious; skin still hot; can be roused sufficiently to protrude her tongue when desired; tumour increasing in size, with very considerable discharge of pus from a cavity situated between the integuments and bone; slough mentioned yesterday increasing; for nourishment takes merely a small quantity of arrow root and milk; involuntary discharge of urine; continue dressings as before.

August 21st.—Death at 3 o'clock, A. M. Autopsy at half-past 11 o'clock, A. M. Present, Drs. PEPPER, WALLACE and SMITH. Tumour collapsed to one-fourth its previous size; considerable slough on the apex, the whole being of a dark brown colour. An incision was made across the top of the head, in the line of the coronal suture; another at right angles to this, touching the base of the tumour, and the integuments turned back so as to show clearly the wound of the scalp through which it protruded; this was an inch and a half in diameter, somewhat irregular in shape, but with its general outline circular, the edges very much thinned and of a dark slate colour; another cut was now made vertically through the tumour and the skull-cap subsequently removed; on attempting to strip off the dura mater from the brain it was found very much injected and strongly adherent, with an opening three-quarters of an inch in diameter, through which the hernia protruded, its edges being attached to the cut made by the trephine. It was now perfectly evident that the tumour consisted of the substance of the brain itself, arising by a narrow pedicle and expanding after passing through the bone. In removing the dura mater, a large abscess, occupying nearly the whole of the anterior and extending deeply into the mid-

dle lobe, was opened; this was lined by a false membrane the eighth of an inch thick, of a light brownish colour, and filled with thick yellow, inodorous pus; the brain immediately outside the membrane was softened, though at a little distance it appeared to be of the natural consistence. There was no effusion of blood either beneath the bone or under the dura mater; neither was there any apoplectic cavity as was generally supposed to be the case by Abernethy.

Compound fracture of the elbow-joint; removal of the coronoid process of the ulna.—Cured.

[Reported by J. M. WALLACE, M. D., late Resident Surgeon.]

JOSEPH F., aged 45 years, a mason by trade, fell about twenty feet from a scaffolding, upon his right arm, and was brought to the hospital on the 30th of July, 1836. He was found to have an oblique fracture of the olecranon process of the ulna; the upper portion, however, was not drawn up, but was held in its place by the ligamentous attachments; immediately over the fracture there was a wound in the integuments two inches in length, and upon introducing the finger it passed down to the bone, and the fragments could be easily separated. He brought with him a portion of bone, which, he stated, was removed from the wound by a physician who saw him immediately after the injury; it was found to be the entire coronoid process of the ulna; there was no hæmorrhage of any consequence, and but a slight discharge of synovia from the wound; it was dressed with dry lint, the arm was placed upon a rectangular splint, and a loose bandage applied. He was laid upon a fracture-bed in order to keep him perfectly quiet, and cold lotions used over the dressings; low diet.

August 7th.—He has suffered but little pain since his admission; the dressings were removed, and suppuration found to be going on; the discharge is of a healthy character; a small poultice applied; allowed soup diet.

Sept. 3d.—The wound has been dressed daily without disturbing the arm; he was attacked with erysipelas, which is prevailing extensively through the wards; the limb was covered with cold mucilage, and merely laid in a tin rectangular splint, with a little bran under it, without any bandage.

Sept. 11th.—An abscess has formed three inches above the elbow, in consequence of the erysipelas; it was opened, and discharged about two ounces of healthy pus. The wound over the joint was touched with nitrate of silver, and dressed with basilicon ointment; a poultice was applied to the abscess; the fracture of the forearm has united firmly; allowed a bottle of porter and full diet.

Sept. 17th.—A carved wooden splint was applied from the axilla to the ends of the fingers, and he was permitted to walk about.

Sept. 23d.—The wound over the fracture has closed entirely; the abscess has healed; no motion has been made at the elbow. He went out to-day on leave of absence and did not return.

Nov. 15th.—He was seen to-day, and found to have motion at the elbow-joint through a quarter of a circle; the motion of the wrist and fingers is perfect, but formation and supination of the hand

is very slight. Before this accident he has always enjoyed perfect health, and was strictly temperate in his habits.

Lacerated wound of the scalp—union by the first intention.

[Reported by J. M. WALLACE, M. D., late Resident Surgeon.]

ELIZABETH M—, aged fifty years, admitted March 17th, 1837. The corner of a wooden water trough fell upon her head, from a height of six feet; it struck her directly in the line of the sagittal suture, and glanced towards the right side; there was a wound of five inches from the top of the forehead directly backwards, and another from this point downwards to the ear. A flap, consisting of the skin and the occipito-frontalis muscle was torn off and hung over; the temporal artery was ruptured, and considerable hæmorrhage had taken place, before her admission, from that and several small vessels, which still bled freely. The hair was driven under the scalp; she had no symptoms of concussion, and complained merely of pain in the wound. The head was shaved and cold water allowed to run over the wounded vessels, the extremities of which were twisted. The bleeding was soon checked; the edges of the wound were drawn together by adhesive plaster, simple cerate, and a light bandage applied; cold drinks and cold gruel given.

March 18th.—No bad symptoms; complains of some heat in the head; cold lotions applied, and a purgative given.

March 21st.—Scalp examined to-day; the wound was found to have united by the first intention, except at the lower corner touched with nitrate of silver. She was allowed warm food to-day for the first time since the accident, but confined to a vegetable diet.

March 27th.—Discharged cured.

List of Accidents, admitted into the Pennsylvania Hospital, from August 8th to August 22d, 1838.

[Reported by J. FORSYTH MEIGS, M. D., Resident Surgeon.]

A case of sprain of both wrists, from lifting a heavy weight. When admitted, there was considerable swelling and inflammation about both wrists; arms placed upon splints, elevated, and lead water kept constantly applied; since discharged cured.—A case of lacerated wound of fingers, caused by the explosion of a charge while blasting rocks. There was compound comminuted fracture of the left malar bone, and of the left side of the lower jaw, by which latter the fluids taken into the mouth were hastily discharged; the globe of the left eye was completely collapsed, there being also a fracture of the left orbicular process of the frontal bone. The last joints of the fore and middle fingers of the left hand were opened and the integuments much torn. When admitted, the man was sensible, and could answer questions, though very indistinctly; did not complain of much pain, and had not lost much blood; some small pieces of the malar bone and of the lower jaw were removed; the wounds slightly drawn together by adhesive straps, and dressed with cold mucilage; the hand

poulticed and placed upon a splint; the patient took an opiate; for diet liquids. Died in four days of arachnitis and effusion into the cranium.—A case of compound fracture of both bones of the left leg, caused by a rail-road car passing over it. External wound six inches in length, with the internal belly of the gastro-enemius muscle protruding; when admitted the man was inebriated, and of very bad habits of body; hæmorrhage not great; one small vessel secured; wound brought together by strips; fracture reduced, and leg placed in fracture box. In a short time he was attacked with mania a potu, for which he took opium and brandy; had a blister to the back of his neck; he became very much prostrated; the whole leg mortified, and secondary hæmorrhage coming on, bran was placed about it, which arrested the hæmorrhage. Died four days after admittance.—A contusion of left hand, caused by the falling of a heavy stone upon it; when admitted the hand was very much inflamed and very painful; placed on a splint, and cloths kept constantly wet with lead water applied; a small collection of matter formed, which was discharged by an opening; since discharged cured.—A case of incised wound of the back of the neck from a blow with a saw; dressed with adhesive strips, and kept quiet. From its partaking of the nature of a lacerated wound, did not unite by the first intention, but is now filling up by granulation.—A case of compound dislocation of the left ankle, with a simple fracture of both bones of the right leg, and a badly lacerated wound of the left thigh, by which the integuments were stripped from half the surface of the thigh, caused by a rail-road car passing over the boy. Death in a few hours.—A case of lacerated wound of the right hand and arm, from being drawn in between two rollers; a compound comminuted fracture of the middle ring fingers; first and second metacarpal bones entirely separated; the thumb very much injured; its tendons being laid bare, and an extensive flap of the integuments of the forearm torn up. Wound dressed with the adhesive strips; dry lint applied, and then placed on a splint. The next morning, after a consultation, Dr. NORRIS amputated the two fingers at the middle joint; parts at present sloughing to considerable extent; dressed with poultices; full diet.—A case of severe contusion of the loins in a boy of six years, caused by a horse treading upon him. When admitted, a tumour, the size of a large orange, had formed in consequence of the effusion of blood; boy placed in bed; kept quiet, and lead water applied; some inflammation took place, which was relieved by cupping, and a smart purge; at present reducing in size.—A case of compound fracture of the last phalanges of the first and second toes of the right foot, from a heavy bar of rail-road iron falling upon it. External wound extends half-way round the great toe; but little hæmorrhage; dressed with adhesive strips, a roller, and the fracture box; kept constantly wet with lead water by means of a syphon; dressings removed in four days, when the wound in the great toe was nearly united; second toe sloughing, and the last phalanx of which has since been removed; at present dressed with strips and cerate; doing well.—A case of fracture of the acromium, from a severe contusion; treated by clavicle apparatus;

since discharged.—A case of contusion of knee and ankle from a dray passing over them; leg placed in fracture box, and lead water applied; doing well.—A case of compound fracture of the skull from a blow with the handle of a windlass; patient totally insensible; there was an external wound three inches long; a comminuted fracture of the superior middle portion of the frontal bone, the pieces being driven in upon the brain, two or three drams of which escaped from the wound, and an extensive depression on the left inferior portion of the same bone. Death in a few hours.—A case of simple transverse fracture of both bones of the leg, from the rolling of a hog'shead against it; dressed with fracture box as usual; doing well.—A case of hæmatocèle, caused by a severe strain; admitted about six hours after the accident, when there was a large tumour in the left side of the scrotum, evidently from an effusion of blood into the cavity of the tunica vaginalis; leeches and supported in bag truss; lead water applied; doing well.

DOMESTIC SUMMARY.

Dr. OLIVER WENDELL HOLMES, of Boston, has been recently appointed Professor of Anatomy in the Dartmouth Medical College, in the place of Dr. MUSSEY, who has accepted the professorship of Surgery in the Medical College of Ohio.

The Medical department of Hampden Sidney College, Richmond, Virginia, has been organized by the appointment of the following professors:—1. Professor of Anatomy and Physiology, Th. Johnson, M. D. 2. Professor of Theory and Practice of Medicine, John Cullen, M. D. 3. Professor of Materia Medica and Therapeutics, L. W. Chamberlayne, M. D. 4. Professor of Obstetrics and Diseases of Women and Children, R. L. Bohannon, M. D. 5. Professor of Surgery, Augustus L. Warner, M. D. 6. Professor of Chemistry and Pharmacy, Socrates Maupin, M. D.

We have just received an extra of the Transylvania Medical Journal, containing a catalogue of the graduates in the Medical College at Lexington, Ky., together with a concise history of the school from its rise to the present time, in an appendix. It represents the oldest medical school in the West as in a highly flattering condition.

Cutler on Bandages.—This useful work has been lately issued by Messrs. Haswell, Barrington & Haswell, in a neat little volume, a fac-simile of the London edition.

Amputation of the Thigh at the Hip-joint.—This operation has been lately performed at Chicago, Illinois, by Dr. Daniel Brainard, assisted by Drs. Joseph Walker and Goodhue. An interesting report of the case is contained in the last number of the American Journal of the Medical Sciences.

Balsam Copaiva for Chilblains.—This remedy was recommended by Dr. Ruschenberger, of the Navy, in the fifth number of the Medical Examiner, as an excellent application to chilblains, which had not

ulcerated. The Editor of the American Journal states, that he has since used it, in thirty-two cases, at the Philadelphia Orphan Asylum, with perfect success.

FOREIGN SUMMARY.

On the Use of the Subcarbonate of Iron (Ferri Sesquioxide) in Hooping-Cough. By Dr. STEYMAN.

OF all the medicines recommended in this painful and lingering disease, the subcarbonate of iron, according to Dr. Steymann, when exhibited in the second stage, is by far the best.

The following cases prove the utility of this remedy.

CASE I. Henri Schröder, eleven years old, had been suffering for nine weeks from hooping-cough, for which all the usual remedies had been exhibited, without relief. The subcarbonate of iron was administered in the dose of two grains every three hours. After the tenth dose of this remedy, all the symptoms were considerably diminished. Ten doses more, each consisting of five grains, completely subdued the disease.

CASE II. The sister of the former patient, five years old, was affected with the cough at the same period, had been treated in the same way, and with the same results. She commenced with two grains of the subcarbonate every three hours; this was increased to three grains, which completed the cure in about eight days. From the first dose the symptoms were alleviated.

CASE III. Jules Etier, five years old, was placed under the care of Dr. S. in the third week of the disease. The cough did not yield till she took the iron; and, after four days' treatment, she was completely cured. Dr. S. says he never heard the fits of coughing more violent than in this child.

Dr. S. holds out a caution against the exhibition of this remedy in the early stages, as he has found it at this period produce considerable irritation, in lieu of hastening the cure. In the first stage he employs leeches, opiates, and emetics; and, before commencing the subcarbonate, he recommends the exhibition of an emetic.

The following he has found a convenient formula: Subcarbonate of iron, twenty-five grains, white sugar, a sufficient quantity to make into ten powders; one to be taken every three hours. This dose is increased according to the age of the patient, adding a grain for every year. The effect is generally prompt; and in a few days nothing remaining but a slight catarrhal cough, which gradually disappears.—*Bulletin Général de Thérapeutique, from Brit. and For. Med. Rev.*, July, 1838.

It would appear from a letter to the editor of the American Journal of the Medical Sciences, published in the last number of that Journal, that Dr. JAMES H. DICKSON, of New York, was the first to perform Stromeyer's operation for club-foot, in America, he having operated successfully in January, 1835, whilst living in Fayetteville, N. C. Professor N. P. Smith, of Lexington, also performed this operation with complete success in 1836, and in 1837 with a like result.

In this city it has been performed by Drs. G. W. Norris and Mutter. Their cases are doing well.